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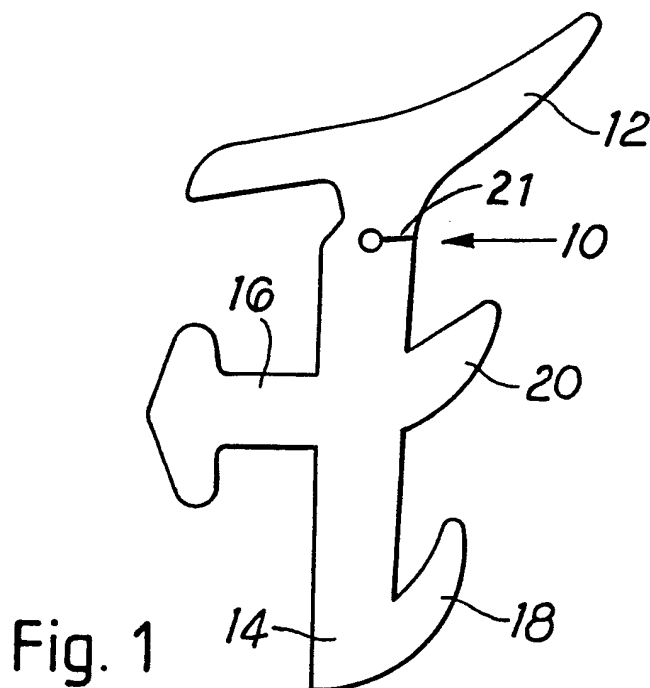
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(54) **Security glazing gasket**

(57) A security gasket 10 for forming a water resistant seal between a frame and a window pane comprises a strip-like sealing portion 12 and a rib-bed root portion 14 joined by a weakened zone consisting of a score line 21 terminating in a hole 22. If an attempt is made by an unauthorised person to remove the gasket 10 by applying a force to the sealing portion 12 the gasket will separate along the score line 21 such that the rib portion 14 remains seated in the frame unit thus still holding the glass securely in place. An extrusion die mould for forming such a security gasket is also disclosed.



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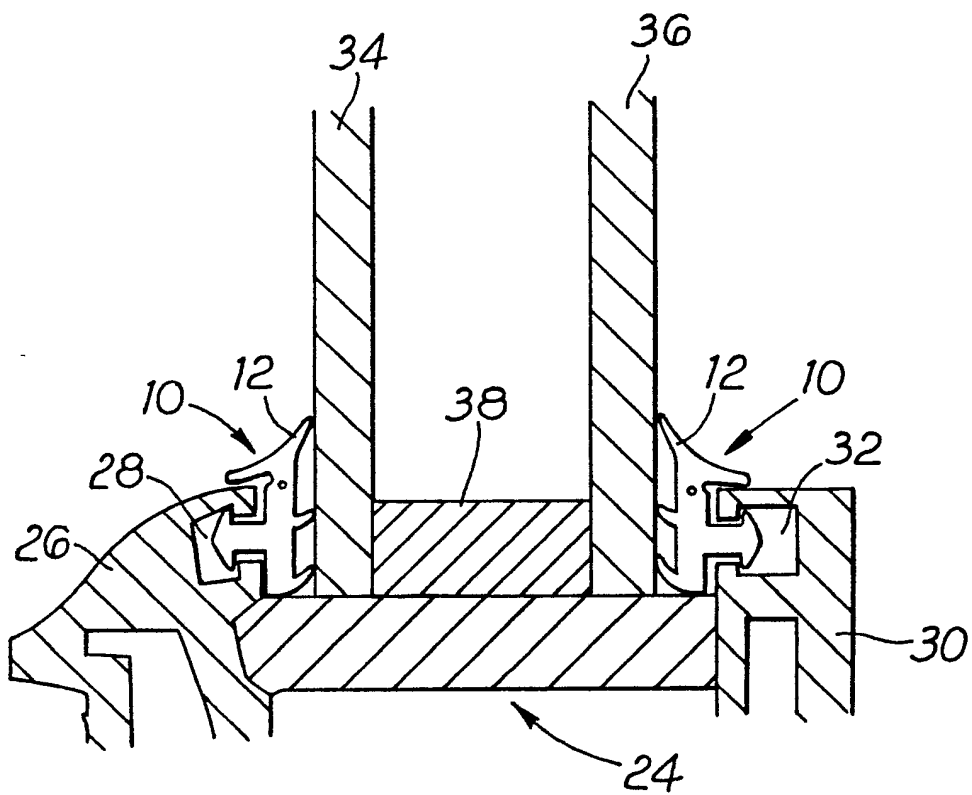
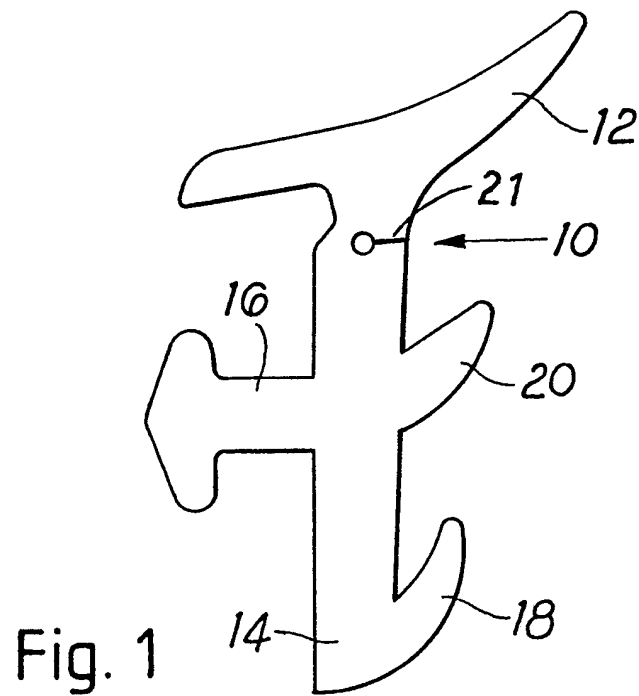


Fig. 2

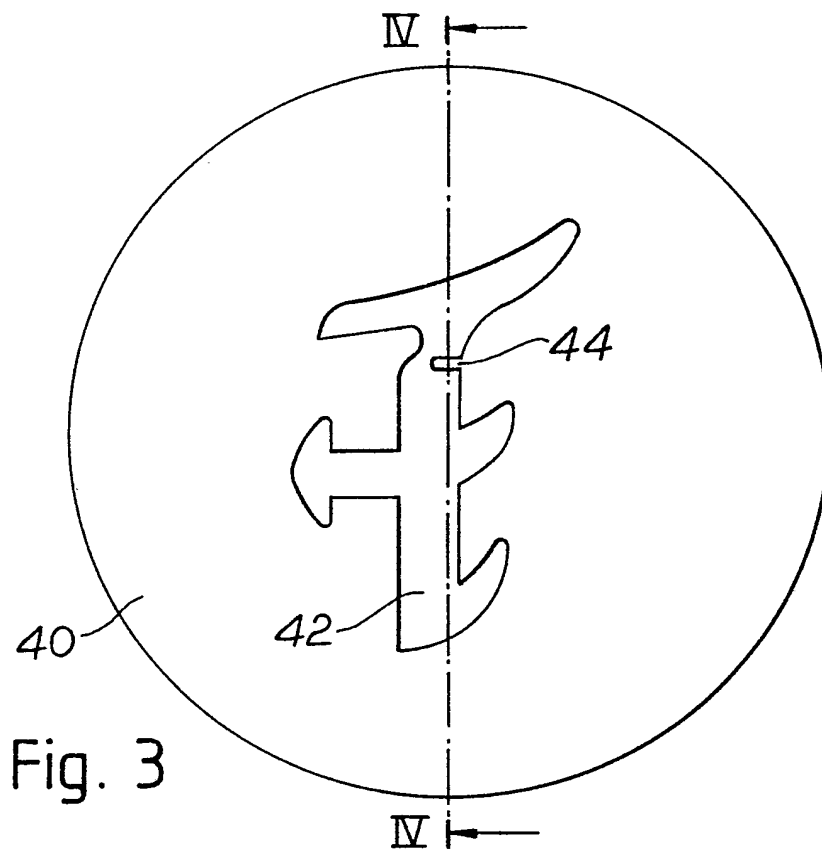


Fig. 3

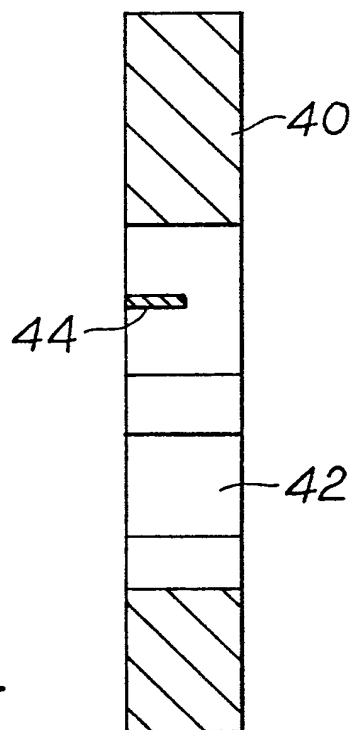


Fig. 4

SECURITY GASKET

This invention relates to a security gasket especially a gasket for providing a watertight seal between a pane of glass and a surrounding window frame.

It is common in double or single glazed window units to form a window frame of uPVC plastic. The panes of glass carried in the uPVC frame are held in a watertight connection thereto via sealing strips or gaskets of a flexible or resilient material such as plastics or rubber. These gaskets are generally provided with a protrusion on one face thereof for connection to the window frame and a strip-like sealing portion which is held under tension against the frame and the glass pane. The sealing portion under tension therefore provides a seal resistant to the ingress of water between one face of the pane of glass and the surrounding frame unit. In a frame unit having two window panes i.e. a doubleglazed unit one such gasket would be provided for each of the two panes of glass. In a single glazed unit one strip would be provided against each face of the single pane.

One weakness of such an arrangement is that the gasket is accessible from the exterior of the window frame. It is thus possible to forcibly remove the gasket from the window frame thereby loosening the pane of glass and permitting its removal. This would allow a burglar, for example, easy access through such a window pane into a room beyond. However, in order to act

effectively as a watertight seal one portion of the gasket must be positioned against an exterior face of the glass pane. It would be an advantage if such a gasket could be formed so that its forcible removal could be prevented.

It is an object of the present invention, therefore, to provide a gasket for a window or door unit formed such that its forcible removal cannot be effected.

A second object of the invention is the provision of an extrusion mould for forming the gasket of the invention.

With the first object in view the present invention provides a security gasket comprising a strip of flexible or resilient material adapted to engage with a frame and a surface enclosed by said frame, the gasket having at least a strip-like sealing portion and attached thereto a second portion which is provided with engagement means for connection to the frame, the second portion being weakened at a position near to its joint with the sealing portion such that an external force applied to the sealing strip will result in the separation of the sealing strip from the second portion which remains engaged with the frame.

Preferably the weakening of the second portion is along its entire length where it connects with the sealing portion.

Preferably the weakening includes a hole disposed

laterally along the second portion, the hole being open at either end of the gasket.

The invention also provides an extrusion die mould for producing a security gasket, the die mould being shaped to produce a gasket of a desired configuration and being provided, at the point where weakening of the gasket is desired, with a protrusion, the protrusion having a relatively thin profile viewed from the direction of introduction of a material to be extruded.

Preferably the protrusion has a depth less than the overall depth of the die mould.

The invention will be described further, by way of example, with reference to the accompanying drawings in which:-

Fig. 1 is a sectional view of a security gasket according to the invention;

Fig. 2 is a sectional end view showing a gasket according to Fig. 1 located in a doubleglazed window frame unit;

Fig. 3 is an end view of an extrusion die mould for producing a gasket according to the invention; and

Fig. 4 is a sectional side view along the line IV - IV of Fig 3.

Referring firstly to Fig 1 of the drawings a security gasket 10 according to the invention comprises an elongate strip of flexible or resilient material such as plastics or rubber having a strip-like sealing portion 12 and a second portion in the form of a rib 14

depending laterally therefrom in a substantially T-shaped configuration. Engagement means 16 project from one face of the rib 14 and are adapted to anchor the gasket 10 to a frame member. On the rib's other face are provided two flexible protrusions 18, 20 disposed substantially parallel to the sealing portion 12. The gasket 10 is weakened by the provision of a score line 21 terminating in a hole 22, the hole 22 and score line 21 extending laterally along the length of the gasket and disposed in the rib 14 near its connection with the sealing portion 12.

Fig. 2 shows how a security gasket 10 according to the invention locates within a doubleglazed window frame unit 24. Some details of the window frame unit 24 have been omitted for clarity. However, its construction is according to common and generally well known principles and features. The frame unit 24 comprises an inner and outer frame profile 26, 30 each respectively provided with a locating cavity 28, 32 and are disposed parallel to one another with a gap provided therebetween. Two panes of glass 34, 36 are located in the gap between the two frame profiles and a spacing member 38 is placed between the two panes 34, 36 to maintain their spacing relative to one another. An elongate gasket 10 is introduced into the space remaining in the gap between the panes of glass 34 and the frame profiles 26. The engagement means 16 provided on the security gasket 10 locates in the cavity 28 provided in the profile 20.

the deformation of the sealing portion 12 and the two flexible protrusions 18, 20 against one face of the pane of glass 34. Thus the sealing portion 12 is held in a water-resistant tensional engagement with the frame unit 24 and the pane of glass 34. A second gasket 10 is similarly located between the inner profile and the second glass pane 36. It will be appreciated that once the doubleglazed windowframe unit 24 is located in, for example, a building wall, only the sealing member 12 of each gasket 10 will be accessible from the exterior of the unit 24.

If an unauthorised person, for example a burglar, should desire to remove one or more of the panes of glass 34, 36 in order to gain entry to the building, it is possible to forcibly remove the gasket 10 by applying a force to the sealing portion 12. This force will cause the deformation of the gasket 10 and the engagement means 16 thus removing the gasket as a whole from the window frame unit 24. The pane of glass 34 is thus loosened within the frame and may be removed relatively easily. With a security gasket according to the invention, however, a force applied to the sealing portion 12 results in the separation of that sealing portion 12 from the rib 14 along that part of the rib 14 weakened by the provision of the scoreline 21 and associated hole 22.

Thus although the sealing portion 12 may be forcibly removed, the rib portion 14 of the gasket 10

remains seated in the frame unit 24 holding the glass pane 34 securely in place by way of the deformed protrusions 20, 18 and the engagement means 16 located in the cavity 28 of the frame profile 26. This remaining portion of the gasket 10 is held firmly between the gap between the glass pane 34 and the window frame profile 26 thus making it extremely difficult to remove or to apply a force sufficient to pull it out of the gap.

Turning now to Fig. 3 an extrusion die mould for producing a gasket according to the invention is referred to generally by the reference numeral 40. The die mould 40 is generally in the shape of a disc which has an opening 42 therein generally corresponding in shape to that of the desired gasket. Rubber or plastics material in a generally semi-liquid state is forced under pressure through the extrusion die mould forcing it to conform to the shape of the opening 42 provided therein.

For producing a gasket according to the invention a protrusion or ridge is provided projecting into the opening 42 at that position which it is desired to weaken in the extruded gasket. In the preferred embodiment this pin or ridge 44 is provided in the depending rib near to its junction with the sealing portion. As will be seen more clearly in Fig. 4 in the preferred embodiment ridge 44 has a depth substantially equal to the overall depth of the extrusion die 40.

When a plastics or rubber material is forced through the die mould the material flows around the ridge 44 and is then allowed to close together after leaving the die mould 40 thus forming a score line 21 in the material of the gasket. In the preferred embodiment where the ridge depth is equal to the mould depth, the closing together of the material also causes the function of a hole 22 in the material of the gasket 12. This hole 22 is formed as a by product of the weakening and is not necessary to enable the gasket to separate along the score line 21. Any desired length of gasket may be thus formed having a pre-weakened portion at the required or desired point.

It will be understood that the weakening of the gasket may be accomplished in any desired manner, for example the extrusion die could be shaped such that the rib, at the point where it joins the sealing strip, is relatively thin and thus weaker than the rest of the rib. The ridge could have a depth less than that of the die which configuration would lessen the chance of the formation of the hole 22. It is also possible that the ridge may take the form of a needle or pin point inserted into the die at the desired location. The precise configuration of the gasket need not be as illustrated and can be varied according to the precise requirements. For example it is known to provide a gasket having a wedge or crescent shape. In a crescent shaped gasket a notch, consisting engagement means, is

provided in the longer arcuate surface such that the shorter arcuate surface will be held under tension against one face of a glass pane. Weakening would be provided between one corner of the notch and the shorter surface such that the exposed part of the gasket will break or separate from that part engaged with the frame. Other configurations are also in common usage. The gasket constructed according to the invention may also be used for sealing the gap between the door and a door frame and it will be understood that the configuration of the gasket may have to be altered to permit this.

CLAIMS

1. A security gasket comprising a strip of flexible or resilient material adapted to engage with a frame and a surface enclosed by said frame, the gasket having at least a strip-like sealing portion and attached thereto a second portion which is provided with engagement means for connection to the frame, the second portion being weakened to a position near to its joint with the sealing portion such that an external force applied to the sealing strip will result in the separation of the sealing strip from the second portion which remains engaged with the frame.

2. A security gasket as claimed in claim 1 wherein the weakening of the second portion is along its entire length where it connects with the sealing portion.

3. A security gasket as claimed in claim 1 or claim 2 wherein the weakening includes a hole disposed laterally along the second portion, the hole being open at either end of the gasket.

4. An extrusion die mould for producing a security gasket, the die mould being shaped to produce a gasket of a desired configuration and being provided, at a point where weakening of the gasket is desired, with a protrusion, the protrusion having a relatively thin profile viewed from the direction of introduction of a material to be excluded.

5. An extrusion die mould as claimed in claim 4 wherein

the protrusion has a depth less than the overall depth of the die mould.

6. A security gasket substantially as hereinbefore described with reference to and as illustrated in Figs. 1 and 2 of the accompanying drawings.

7. An extrusion die mould substantially as hereinbefore described with reference to and as illustrated in Figs. 3 and 4 of the accompanying drawings.

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ABSTRACT:

CHG DATE=19990617 STATUS=O> A security gasket 10 for forming a water resistant seal between a frame and a window pane comprises a strip-like sealing portion 12 and a rib-bed root portion 14 joined by a weakened zone consisting of a score

line 21 terminating in a hole 22. If an attempt is made by an unauthorised person to remove the gasket 10 by applying a force to the sealing portion 12 the gasket will separate along the score line 21 such that the rib portion 14 remains seated in the frame unit thus still holding the glass securely in place. An extrusion die mould for forming such a security gasket is also disclosed, 